


Integrated Open Source Application of the Emergency Data Exchange Language Resource Messaging 1.0 Specification (IOSA-EDXL-RM)

<http://sourceforge.net/projects/iosa-edxl-rm/>

Presented by Rex Brooks



Open Source EDXL-RM Goals

- **Sample Implementation Aimed at Developers for Adaptation to Customized Installations**
 - **Provide all Required and Most Optional Elements**
 - **Provide Minimum Database with Companion DB Management Application**
 - **Provide Basis for Jurisdictions to Understand Basic EDXL Concepts of Distribution Element (EDXL-DE) with Content Payloads such as EDXL-RM and EDXL-HAVE**
 - **Provide Basis for Combining Geospatial Applications with EDXL-RM**
 - **Provide Basis for Developing Graphical Interface that doesn't Require Operators to Spend Time Keyboarding Inputs During Exercises and Actual Incidents**
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The Role of Emerging Open Standards in the National Response Framework:

Standards Acronym List

- **OASIS: Organization for the Advancement of Structured Information Standards**
 - ◆ CAP: Common Alerting Protocol
 - ◆ EDXL-DE: Emergency Data Exchange Language Distribution Element
 - ◆ EDXL-RM: Emergency Data Exchange Language Resource Messaging
 - ◆ EDXL-HAVE: Emergency Data Exchange Language Hospital Availability Exchange
 - ◆ SOA-RM: Reference Model for Service Oriented Architecture
 - ◆ SOA-RA: Reference Architecture nfor Service Oriented Architecture
 - ◆ ebXML Registry-Repository: Electronic Business using eXtensible Markup Language
 - ◆ CIQ: Customer Information Quality
 - ◆ oBIX: Open Building Information Xchange
- **Open Geospatial Consortium**
 - ◆ GML: Geography Markup Language
 - ◆ 'geo-oasis': Profile of GML for use with OASIS Specifications
 - ◆ SensorML: Sensor Markup Language
 - ◆ CityGML: City Geography Markup Language
- **Web 3D Consortium**
 - ◆ X3D: ISO standard XML-based file format for representing 3D computer graphics
 - ◆ GeoX3D: GeoPositionInterpolator Node of X3D
- **Miscellaneous**
 - ◆ BIM: Building Information Modeling
 - ◆ NBIMS: National Building Information Modeling Standard

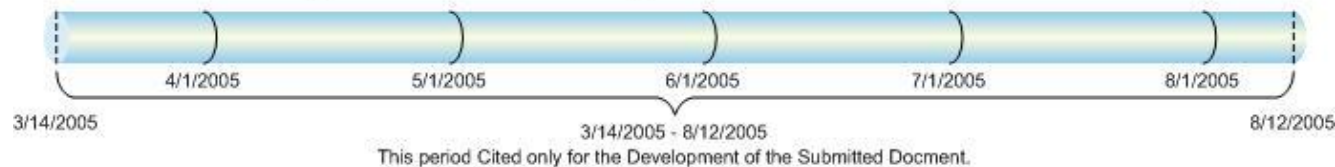


What are Emerging Standards?

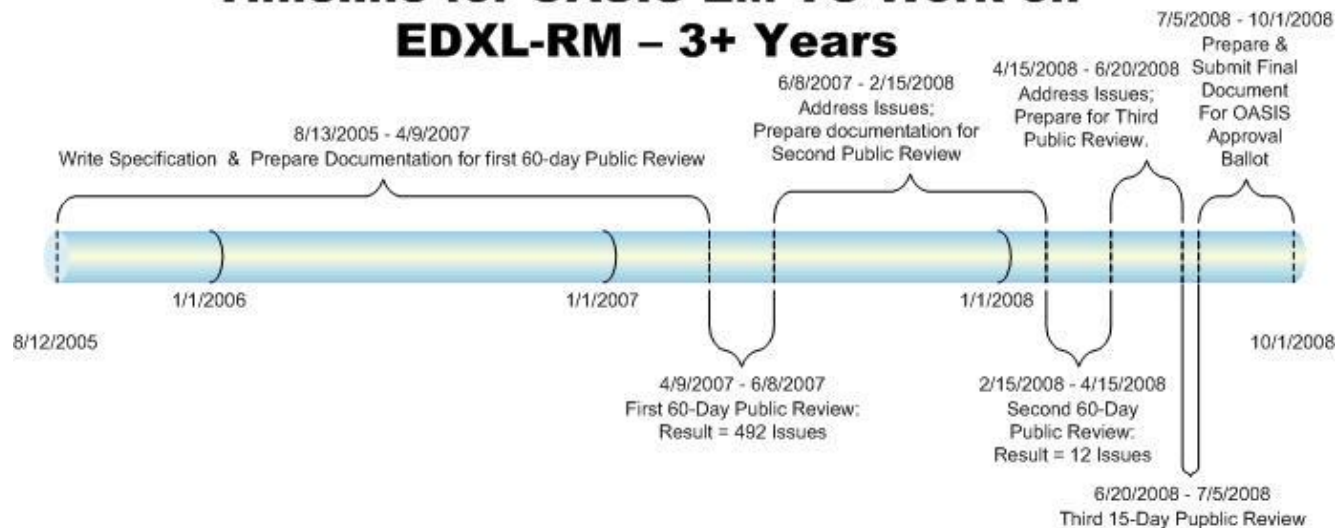
- **‘Emerging’ Means ‘Becoming Manifest’ or ‘Becoming Known’ Sounds ‘Sudden’**
- **OASIS Conducts Approval Ballot October 16-31, 2008 for EDXL-RM 1.0 and EDXL-HAVE 1.0**
- **First Submissions to OASIS Emergency Management Technical Committee (OASIS EM TC) in August, 2005**
- **‘Emerging’ Not Necessarily ‘Disruptive,’ can be ‘Well-Timed’ When Business & Public Prepared for ‘Emerging’ Technology**

EDXL-RM Timelines

Timeline for Practitioner Subject Matter Expert Group – EDXL Project Team – 5 Months



Timeline for OASIS EM TC Work on EDXL-RM – 3+ Years





Standards From Outside

Emergency Management TC Also Required

- **OASIS Customer Information Quality (CIQ) Specifications Used in EDXL-RM & EDXL-HAVE**
 - ◆ **Name (extensible Name Language - xNL),**
 - ◆ **Address (extensible Address Language - xAL),**
 - ◆ **Name and Address (extensible Name and Address Language - xNAL) &**
 - ◆ **Party (extensible Party Information Language - xPIL)**



Emergency Management Standards Support National Response Framework

- **EDXL-RM & EDXL-HAVE Provide Measurable Resource Parameters for Readiness, Preparedness Web 2.0 Analytics**
- **EDXL-Reference Information Model (EDXL-RIM) to Add Ontology of EDXL-Family for Semantic Web Support**
- **EDXL-RIM to Provide 'Blueprint' Level of Abstraction, to Implement SOA Reference Architecture**
 - ◆ **SOA Reference Architecture Subcommittee Working 1st Public Review Issues Now**
- **EDXL-RIM Provides Explanation of EDXL Methods such as Keyword-Identified 'ValueListURN-Value' Pairs**
 - ◆ **Aid for New Specifications and New Versions in EDXL-Family**



Next Steps in Standards

■ OASIS EM TC:

- ◆ Profiles such as the Emergency Alert System (EAS)-CAP Profile Under Development
- ◆ Extensions
- ◆ EDXL-Situation Reporting in the Practitioner Steering Group Now
- ◆ EDXL-Asset Tracking Under Consideration
- ◆ Next Versions: CAP 1.2 or 2.0 (Undecided); EDXL-DE 2.0

■ Open Geospatial Consortium

- ◆ ‘Geo-OASIS’ Profile of GML for use with OASIS Standards

Start Page of EDXL-RM Sample Implementation: EDXL-DE

Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://localhost:7080/EDXL-RM-WebApp/

Red Hat, Inc. Red Hat Network Support Shop Products Training

EMERGENCY DATA EXCHANGE LANGUAGE RESOURCE MESSAGES

EDXL-DE Distribution Element	EDXL-RM Resource Messages	EDXL-RM Contact Info	EDXL-RM Resource Info	EDXL-RM Response Info	EDXL-RM Schedule Info	EDXL-RM Geospatial Info
View ResourceMessages	Add SenderContact Info	Add Recipient Contact Info	Add Resource Info	Add Response info	Add Schedule Info	Add Geospatial Info

Create New EDXL-DE Distribution Element for EDXL-RM Resource Message

Sender Identifier	Sender Name	Sender Role
Distribution ID (Assigned by System)	Distribution Type	Report
DateTime Sent (Assigned by System)	Distribution Status	Actual
EDXL-DE-XML Content	EDXL-DE-Non-XML Content	application/EDIX12
Select Predefined Resource Message	Confidentiality	Unclassified and Non-Sensitive

- edxl-rm-request-resource
- edxl-rm-request-resource
- edxl-rm-response-to-request-resource
- edxl-rm-requisition-resource
- edxl-rm-commit-resource
- edxl-rm-request-information
- edxl-rm-response-to-request-information
- edxl-rm-offer-unsolicited-resource
- edxl-rm-release-resource
- edxl-rm-request-return
- edxl-rm-response-to-request-return
- edxl-rm-request-quote
- edxl-rm-response-to-request-quote
- edxl-rm-request-resource-deployment-status
- edxl-rm-report-resource-deployment-status
- edxl-rm-request-extended-deployment-duration
- edxl-rm-response-to-request-extended-deployment-duration

Done

EDXL-RM RequestInformation Message Page

Messages May
Contain Multiple
Resource Units &
Resource May
Contain Multiple
ScheduleTypes

Sample
Implementation:
3 Resource Units
per Form

3 ScheduleTypes
per Resource

(Example Images
Show only 2
Resources in
Example Form
Page)

EDXL-RM Contact Information Page

Individual Records in Contact, Resource, Response, Schedule Info Categories can be Created, Edited and Deleted from Their Category Pages, (Contact Info Shown as Example.)

CONTACT INFORMATION - Summary: Select Contact Record (row) to View or Edit Details Below.

Select	FirstName	LastName	Description	Organization	Location	Email
<input type="radio"/>	Alex	Jones	Dept of Emergency Services Agent	Dept of Emergency Services	Cairns SES	alex@emergencyservices.gov.au
<input type="radio"/>	Charlotte	Ryan	EMA Logistics Manager	EMA	Brisbane SES	na
<input type="radio"/>	Alex	Jones	Dept of Emergency Services Agent	Dept of Emergency Services	Cairns SES	alex@emergencyservices.gov.au
<input checked="" type="radio"/>	Michelle	Yates	District Disaster Coordinator	QLD Police	Brisbane SES	na

CONTACT INFORMATION - View, Edit or Create ContactInformation.

Create Contact Edit Contact Delete Contact

Contact Role: Sender Contact Position: Dept of Emergency Services Agent

FirstName: Alex LastName: Jones

Contact Full Name: Alex Jones-Sender Contact Description: Dept of Emergency Ser Location:

Street Address: City: State/Province: Country: AU Postal Code:

Organization Name: Dept of Emergency Services Email: alex@emergencyservices.gov

Telephone Number: 61730001234 Cellphone Number: na

RadioType: Radio Channel:

Individual Records can be Selected through their respective Add-Info Page for including in the EDXL-RM Message that is Being Created

EDXL-RM-Complete MySQL Database

The screenshot shows the phpMyAdmin 2.9.1.1 interface in a Mozilla Firefox browser. The address bar shows the URL: `http://localhost/phpMyAdmin-2.9.1.1-english/index.php?db=i232777_EDXL-RM-Complete`. The interface displays the database 'i232777_EDXL-RM-Complete' with a list of tables on the left and a detailed view of the tables on the right.

Database: i232777_EDXL-RM-Complete (70)

- AdditionalContactInformation
- AssignmentInformation
- AssignmentInstructions
- Certifications
- CommitResourceMessage
- ContactInfo
- ContactRole
- Credentials
- EDXL-DE-Confidentiality
- EDXL-DE-DistributionInfo
- EDXL-DE-DistributionStatus
- EDXL-DE-DistributionTypes
- EDXL-DE-NonXMLContent
- EDXL-DE-SenderInfo
- EDXL-DE-SenderRole
- EDXL-DE-XMLContent
- EDXL-ReferenceResourceMsg
- EDXL-RM-MessagesReceived
- EDXL-RM-MessagesSent
- EDXL-RM-ResourceMessage

Table Action

Table	Action
<input type="checkbox"/> AdditionalContactInformation	
<input type="checkbox"/> AssignmentInformation	
<input type="checkbox"/> AssignmentInstructions	
<input type="checkbox"/> Certifications	
<input type="checkbox"/> CommitResourceMessage	
<input type="checkbox"/> ContactInfo	
<input type="checkbox"/> ContactRole	
<input type="checkbox"/> Credentials	
<input type="checkbox"/> EDXL-DE-Confidentiality	
<input type="checkbox"/> EDXL-DE-DistributionInfo	
<input type="checkbox"/> EDXL-DE-DistributionStatus	



Participants

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Knowledge Services